

IV. REMARKS/ARGUMENTS

A. Status of the Application

Claims 1-6, 8-11 and 13-16 are pending. Claims 7, 12 and 17-22 have been canceled. Claims 1-2, 4-6, 8-10 and 13-16 have been amended herein. No new matter and no new claims have been added.

Applicant respectfully requests consideration of the foregoing amendments and the following remarks, and in view of same, further requests the allowance of all pending claims as presented herein.

B. Objections to the Specification

The title was objected to as not being descriptive. The suggested revised title has been adopted. Therefore, it is requested that the objection to the title be withdrawn.

The disclosure was objected to because of certain enumerated informalities. The suggested amendments to the disclosure have been adopted. Therefore, it is requested that the objection to the disclosure be withdrawn.

C. Objection to the Drawings

The drawings were objected to under 37 C.F.R. §1.83(a) because the "shift means" of claim 14 was allegedly not shown in the drawings. Claim 14 has been amended and no longer refers to a "shift means". Accordingly, the objection to the drawings is moot and it is therefore requested that it be withdrawn.

D. Claim Objections

Claims 6 and 9 were objected to under 37 C.F.R. §1.75(c) as being in improper form. Claims 6 and 9 have been amended to overcome the objection to such claims. Therefore, it is requested that the objection to claims 6 and 9 be withdrawn.

E. Claim Rejections

1. Rejection of Claims 1-5, 8, 10-11 and 13-16 under 35 U.S.C. § 112

Claims 1-5, 8, 10-11 and 13-16 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness. Insofar as it may be applied against the present claims, this rejection is respectfully traversed.

Claims 1-2, 4, 8-10 and 13-16 have been amended to overcome the rejection of claims 1-5, 8, 10-11 and 13-16 under 35 U.S.C. § 112, second paragraph, for indefiniteness. Accordingly, it is respectfully requested that this rejection be withdrawn.

2. Rejection of Claims 1-5, 9-11 and 13 under 35 U.S.C. § 102(b)

Claims 1-5, 9-11 and 13 stand rejected under 35 U.S.C. § 102(b) over Japanese patent document number JP 10-332687 to Sumiya et al. ("Sumiya '687"). Insofar as it may be applied against the present claims, this rejection is respectfully traversed.

According to the claimed concentration device and system, a target substance is captured by suspending magnetic particles in a liquid, therefore, such target substances can be easily captured by agitating the liquid incorporating the magnetic particles and contacting the magnetic particles and the target substances. Also, with the claimed concentration device and system, since the magnetic particles are separated by magnetic force, the magnetic particles can be easily re-suspended into liquids of various volumes by removing the magnetic field. Further, with the claimed concentration device and system, since the magnetic force means can separate and re-suspend the magnetic particles suspended in a liquid, members for fixing the capture member to the liquid passage are unnecessary, which simplifies the construction of the device and system. Furthermore, with the claimed concentration device and system, since a liquid whose volume is greater than the maximum volume capable of being sucked into or discharged from the storage section (or liquid passage) at the time of one of suction or discharge, is continually passed through the storage section (or liquid passage), the device of the present invention can promptly and efficiently carry out concentrating, diluting, separating and re-suspending of the magnetic particles.

Further, as described on page 4, lines 17 to 22, of the present application, when the suction port and the discharge port of the liquid passage are inserted into different containers, the suspension before separating the magnetic particles and the residual liquid after the separation thereof can be separated, which enables an improvement of the efficiency of such processing. When the suction port and the discharge ports are inserted into the same container, the liquid passage forms a circuit, thereby enabling separation to be repeated without replacing the suction port and the discharge port.

It is noted that the translation of Sumiya '687 provided by the Examiner was prepared by computer, is extremely poor, includes many terms designated as "*****" which are words that could not be translated and generally is meaningless. As such, it is submitted that the translation of Sumiya '687 relied upon in the rejection of claims 1-5, 9-11 and 13 is improper. Specifically, the translation does not meet the requirements of MPEP §706.02 which requires that if a document is in a language other than English, a translation must be obtained "so that the record is clear as to the precise facts the examiner is relying upon in support of the rejection." The computer translation relied upon by the Examiner does not make the record clear as to the precise facts the examiner is relying upon in support of the rejection. For this reason it is submitted that the rejection of claims 1-5, 9-11 and 13 over Sumiya '687 is improper and it is therefore requested that it be withdrawn.

Moreover, as provided in MPEP §2131, "[t]o anticipate a claim, the reference must teach every element of the claim...." Therefore, to sustain the rejection of claims 1-5, 9-11 and 13 under 35 U.S.C. § 102(b), Sumiya '687 must disclose all of the elements of these claims. However, Sumiya '687 does not meet the standard required by MPEP § 2131 because Sumiya '687 does not disclose each and every element of any of independent claims 1, 10 and 14, or the claims that depend therefrom.

The concentration device of claim 1 and the concentration systems of claims 10 and 14 each include magnetic particles to be suspended in a liquid, a separate liquid suction passage (or port), a separate liquid discharge passage (or port), magnetic force means capable of separating the magnetic particles and a storage section communicating with the liquid suction passage and the liquid discharge passage. The magnetic particles are capable of directly or indirectly capturing a target substance suspended in the liquid and the magnetic force means is operable to

exert or not exert a magnetic field from outside of the liquid suction passage and/or the liquid discharge passage. Consequently, a liquid having a volume that is greater than the maximum volume capable of being sucked into or discharged from the storage section upon one of suction or discharge, can be continually passed through the storage section.

In contrast thereto, Sumiya '687 discloses a device having a capture member in which the capture member is arranged in the liquid path. While Sumiya '687 discloses that the capture member can combine a "special material" in liquid, Sumiya '687 does not disclose or suggest that the device includes magnetic particles to be suspended in a liquid.

Also, according to the Office action, paragraph [0030] of Sumiya '687 discloses magnetic force means. However, paragraph [0030] of Sumiya '687 only discloses "the alternative removal means by the energy added from the outside, such as an ultrasonic wave and an electromagnetic wave, near the member." Sumiya '687 is devoid of any disclosure or suggestion that the removal means functions to separate and re-suspend magnetic particles in a liquid as in the concentration device of claim 1 and the concentration systems of claims 10 and 14. On the contrary, it is clear that a magnetic force means is not necessary in the device of Sumiya '687 because the capture member is fixed to the liquid path.

Further, the device of Sumiya '687 comprises a single opening, namely, opening 3 for supplying and/or discharging a liquid. Therefore, contrary to the concentration device of claim 1 and the concentration systems of claims 10 and 14, Sumiya '687 does not disclose or suggest a liquid suction passage in which liquid can pass through only in a suction direction and a liquid discharge passage in which liquid can pass through only in a discharge direction. Therefore, according to Sumiya '687, a liquid having a volume that is less than the maximum volume capable of being sucked into or discharged from the storage section is either sucked or discharged alternately rather than simultaneously.

Consequently, the concentration device of claim 1 and the concentration system of claims 10 and 14 is not disclosed or suggested by Sumiya '687, in that it includes magnetic particles which can be suspended in a liquid and are not always fixed to the liquid path, and that the magnetic force means is present in order to separate the magnetic particles, and that the liquid suction passage (or port) and liquid discharge passage (or port) are separately provided.

For all of the foregoing reasons, it is submitted that Sumiya '687 does not disclose or suggest each and every element of independent claims 1, 10 and 14, or the claims that depend therefrom. Accordingly, Applicant respectfully requests that the rejection of claims 1-5, 9-11 and 13 over Sumiya '687 be withdrawn.

3. Rejection of Claims 10, 11 and 13 under 35 U.S.C. § 102(b)

Claims 10, 11 and 13 stand rejected under 35 U.S.C. § 102(b) over International Patent Application Publication No. WO 96/29602 to Tajima ("Tajima '602"). Insofar as it may be applied against the present claims, this rejection is respectfully traversed.

According to claim 10, the concentration system includes a liquid passage having a separate suction port and a separate discharge port, with a pump being provided between the suction port and the discharge port in the liquid passage, for transferring the liquid along a transfer direction of the liquid in the liquid passage.

In contrast thereto, Tajima '602 discloses a device which includes a liquid sucking/discharge line (a liquid passage) having a single port that works both as a suction port and a discharge port, and a pump is provided at the end of the liquid sucking/discharging line, as shown in Fig. 7, 9-13, 22 and 23 thereof. Accordingly, Tajima '602 does not disclose or suggest the concentration system of claim 10.

Moreover, according to the device disclosed in Tajima '602, when a pump is sucking a liquid through the port, it cannot be simultaneously discharging a liquid through the port.

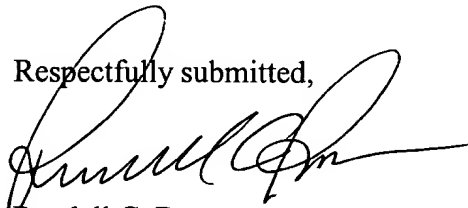
In contrast thereto, according to the concentration system of claim 10, when the pump is sucking a liquid through the liquid suction port, a liquid can be simultaneously discharged through the liquid discharge port. Therefore, a liquid sucked from a container can be optionally continuously discharged to the same container or any other container.

For all of the foregoing reasons, it is submitted that Tajima '602 does not disclose or suggest each and every element of independent claim 10 or the claims that depend therefrom. Accordingly, Applicant respectfully requests that the rejection of claims 10, 11 and 13 over Tajima '602 be withdrawn.

F. Conclusion

Claims 1-6, 8-11 and 13-16 are now pending in the present application. In view of the foregoing amendments and remarks, reconsideration and allowance of all pending claims is respectfully requested. The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,



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